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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/077,616	02/15/2002	Yoshiaki Togawa	380153-72	2878

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EXAMINER

PHAM, HOA Q

ART UNIT PAPER NUMBER

2877

DATE MAILED: 11/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/077,616	Applicant(s) TOGAWA, YOSHIKI	
	Examiner Hoa Q. Pham	Art Unit 2877	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/4/2004 has been entered.

Claim Rejections - 35 USC § 102

And/or

Claim Rejections - 35 USC § 103

2. Claims 1-3 and 6 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Shimaoka (6,473,178) (of record).

Regarding claims 1-2, as understood, claims 1 and 4 are read on the figure 8 of Shimaoka, for example, Shimaoka discloses a sample cell (52) for receiving particles (P) therein, a light source section (51a, 61, 61a) includes a first laser light source (51a) for irradiating light beam in the range of from 600-800 nm for detecting the particles having large diameters and a second light source (61) for irradiating the light beam having wavelength shorter than the first laser light source for detecting small particles in the order of sub-sub-micron (less than 0.1 μm), a detector unit (53b, 54, 55, 62, 63) for measuring the intensity of a direct light passing through the sample cell and light scattered

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by the particles at respective scattering angles and an arithmetic processing unit (57, 58) for determining the particle size distribution by using the laser light at the first and second wavelengths in the whole range of the particle size to be measured to compensate the sensitivity of the region (see figure 8). Since column 4, lines 34-41 of Shimaoka teaches, **"the light source (51a) is a semiconductor laser having a wavelength region (600-800 nm) and the light source (61) capable of outputting beam having a wavelength shorter than the laser"**. Thus, it is inherent that both light sources are semiconductor lasers, if not, this limitation is taught in other embodiments, for example, Shimaoka teaches that the small particles can be detected by using a laser beam source having a wavelength in the range from 300 to 500 nm (column 7, lines 50-61 and column 6, lines 1-20). It would have been obvious to one having ordinary skill in the art at the time the invention was made to replace the light source (61) of Shimaoka by a laser source in the range from 300 to 500 nm for the purpose of detecting particles having small diameters.

Regarding claim 3, figure 8 teaches that the direct light passed through the sample is detected by detector (53b) and scattered lights at different angles are detected by detectors (54, 55, 62, 63).

Regarding claim 6, as mentioned above the second light source capable of outputting beam having a wavelength shorter than the first light source.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 4-5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shimaoka.

Regarding to amended claim 4, it would have been obvious to one having ordinary skill in the art at the time the invention was made to operate the first and second light sources (51a and 61) sequentially. The rationale for this modification would have been arisen from the fact that by turning ON and OFF the light sources at different times would improve the signal to noise ratio. Thus, an accuracy of the measurement is obtained.

Regarding claim 5, Shimaoka does not explicitly teach the use of a shuttle for transmitting light of selected wavelength and prevent another wavelength. However, such a feature is well known in the art. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include in Shimaoka a shuttle because this is a known shuttle which is known to serve for the purpose of Shimaoka of transmitting light of a wavelength at a certain wavelengths and prevent the other wavelengths.

Response to Arguments

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5. Applicant's arguments filed 10/4/04 have been fully considered but they are not persuasive.

a. Applicant's remarks, page 5, argue that light source (61) is not a laser source. The argument is not deemed to be persuasive because as mentioned above light source 61 is capable of outputting a light beam having a wavelength shorter than the other laser source (51a), which has the range of wavelengths from 600 to 800nm; thus it is inherent that the light source 61 is a laser source. In addition, Shimaoka teaches in other embodiments, a laser source having shorter wavelength in the ranges from 300 nm to 500 nm as mentioned above. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to replace the light source 61 by a laser source as suggested by Shimaoka because they would function in the same manner.

b. Applicant is noted that the range of frequencies is from 300-800nm; thus, the intensity of light to be measured is within the measuring range.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hoa Q. Pham whose telephone number is (571) 272-2426. The examiner can normally be reached on 7:30AM to 6 PM, Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley, Jr. can be reached on (571) 272-2800 ext. 77. The fax

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phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Hoa Q. Pham
Primary Examiner
Art Unit 2877

HP
November 8, 2004